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SPOTLIGHT
1. HURRICANE KATRINA
Neighborhood and wildlife refuge 'one big pool now'
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BAYOU SAUVAGE NATIONAL WILDLIFE REFUGE, La. -- Residents of New Orleans East, normally a thriving immigrant community pinched on a land bridge between two of the city's largest leveed waterbodies, Lake Ponchartrain and Lake Borgne, have long taken for granted that they live alongside one of Louisiana's wildest marshes.

The refuge, only 15 minutes from the historic French Quarter and bisected by every major highway entering New Orleans from the east, is so rich in wildlife that the city simply deeded the area to the Fish and Wildlife Service in the 1980s to establish what is now the nation's largest urban wildlife refuge.

But since Hurricane Katrina rendered the refuge's massive levees little more than speed bumps in its 12-foot storm surge across Lake Ponchartrain, Bayou Sauvage and the city of New Orleans have again become joined.

FWS officials cautioned last week that evacuees returning to New Orleans East neighborhoods as floodwaters recede would do well to check their garages for alligators, their kitchen cabinets for water snakes, and their attics for raccoons. Empty houses, officials say, make ideal safe havens for wild animals seeking shelter from the storm.

"The problem for residents of New Orleans East is that [the area] is one big pool now," said James Harris, supervisory biologist for the Southeast Louisiana Refuges Complex, which includes Bayou Sauvage and six other wildlife refuges. "Everything down there at this point is just wandering around trying to figure out what happened to their world."

Judging by conditions on a tour of the refuge Thursday, Bayou Sauvage is anything but a safe, secure place for animals these days. Threats to wildlife range from storm surge-induced mortality and displacement to toxic shock from polluted floodwater being pumped back into Lake Ponchartrain, and partly into the refuge, from adjacent New Orleans neighborhoods.

Wildlife will also have to adapt to large-scale physical changes to the marsh. Feeding grounds that used to support upwards of 30,000 waterfowl annually remain inundated with water and may never return. Elevated spits of land that supported a variety of terrestrial species -- like deer, raccoons, swamp rabbits and opossum -- are also underwater or have been stripped bare of trees and other herbaceous plants. What is left of the uplands will be even more densely concentrated with wildlife than before and competition for food will grow fierce, officials said.

Jennifer Coulson, president of the local Audubon Society chapter, said in an e-mail exchange that she drove through the New Orleans East area on Friday, noting, "The scope of destruction is difficult to absorb."

Perhaps most disturbingly, the chaos and lawlessness that enveloped New Orleans after Hurricane Katrina extended into the refuge as well, as evidenced by the putrid carcass of a poached alligator discarded along Highway 90. The formerly 9-foot gator's tail had been severed off with a hack saw, but its torso and snouted head remained intact.

"If it's wild, it's good eating," commented refuge manager Shelley Staies.

Watching the pumps

FWS officials like Harris and Staies, while cognizant that human suffering must be alleviated in New Orleans, even if it comes at the expense of the refuge, nevertheless remain concerned that places like Bayou Sauvage may endure so many insults in the rush to "dewater" residential and industrial areas that it will take decades for conditions to return to normal.

Last week, for example, they looked on with trepidation as Army Corps of Engineers' contractors pumped millions of gallons of highly toxic floodwater into a lowland area on the refuge's west side to allow the resumption of activities at a nearby liquid hydrogen plant along the New Orleans Industrial Canal.

Last week, the U.S. EPA reported that floodwater being pumped from parts of New Orleans contained elevated levels of both organic and non-organic pollutants, including fuel oil residuals, heavy metals and sewage-derived bacteria. At Bayou Sauvage, the foamy water pouring out of three 16-inch pipes near the CSX rail line came with a strong sulfurous odor that burned the nose and eyes.

Nearby, on Bayou Sauvage's east side levee wall, a unknown number of steel liquid-storage drums, most of them from firms along the Industrial Canal, litter the edge of the refuge alongside barges, shrimp boats, crumpled sheet metal and a veritable mountain's worth of trash.

Contractors at the pumping site near the CSX rail line said they did not know what was in the floodwater, but they were working to shore up levees that separate the refuge from what was a rising lake of wastewater. Harris, the FWS biologist, expressed concern that if the wastewater pool got too high on the west side of the refuge, it could create a hydraulic head that would blow out the levee and inundate the refuge again, only this time with a much more toxic brew than Katrina delivered.

Refuge manager Staies, a New Orleanean who lost her home to Katrina, said she was equally concerned about the pumped-out wastewater rising on a predominantly Vietnamese immigrant neighborhood on the refuge's west side. "It's going to come right up on them," she said.

A Corps of Engineers official on the site said he expected the pumping to cease over the weekend, and that the wastewater pool would recede shortly thereafter.

Even with the corps' assurances, the pumping of toxic wastewater so close to the refuge exposed longstanding tensions between the Corps of Engineers and the Fish and Wildlife Service. The two agencies often find themselves at odds over how to manage south Louisiana's abundant water resources, and Bayou Sauvage is almost entirely located within the corps-managed hurricane levee system.

"It's their levee, but it's our responsibility" to protect the refuge, Harris said.

Open-water refuges take hits

Beyond New Orleans, FWS refuge managers continued to tally damage to other wildlife assets, including the barrier islands of Breton National Wildlife Refuge off Chandeleur Sound and Delta National Wildlife Refuge at the mouth of the Mississippi River.

Breton had already endured one storm-related catastrophe earlier this year, when an Amerada Hess Corp. oil production platform spilled nearly 600 gallons of oil into one of the nation's premier nesting sites for endangered brown pelicans following Tropical Storm Arlene (*Greenwire*, June 15). The area is also important habitat for sandwich terns and royal terns and black skinners, all species of concern, according to FWS.

Harris said Katrina's storm surge caused "extensive habitat loss" at Breton NWR due to overwash of the islands. He said the near-annual battering of tropical storms, beginning with Hurricane Georges in 1998 and continuing through Katrina, has resulted in a 50 percent loss of land area on Breton's barrier islands.

The result, he said, is that nesting birds will be even more susceptible to overwashes, including from moderate summer squalls that are common in the Gulf of Mexico. Harris expects nesting birds at Breton NWR to decline by as much as 60 percent next year. "If they want to nest, they will have to go someplace else," he said. Many birds may simply opt not to nest rather than move somewhere else, as "they are very site-fidelic."

At Delta NWR, one of the largest waterfowl wintering grounds in North America, Harris said food supplies will be greatly diminished this year as almost all of the surface vegetation was wiped out by Katrina. Much of that marsh grass will recover for the 2006-07 wintering season, but Harris said he expects a 70 to 80 percent loss of ducks and geese this year from the Delta's normal wintering population of 250,000 to 300,000 birds. For waterfowl that opt to winter over in the Delta wildlife refuge, despite low food reserves, "they may not be as energetically fit" when they return to their breeding grounds next spring, Harris said. The result, he said, could be fewer fledglings born next year, thus reducing populations in the Mississippi River flyway.